

中国西北地区菊科新植物

傅 竞 秋

THE NEW PLANTS OF THE COMPOSITAE FROM NORTH-WESTERN CHINA

Fu Jing-qiu

1. 卢氏裸菀 图1

Gymnaster lushiensis J. Q. Fu, sp. nov.

Species ex affinite *G. piccolii* (Hook. f.) Kitam., sed foliis latioribus, utrinque dense breviter albo-hispidis et adpressis-villosis; acheniis 5 vel multi-costatis differt.

Herba perennis. Caulis erectus, teres, dense sursum adpressus albo-villosus, leviter flexuosus, ad apicem ramosus. Folia basalia et caule inferiore non visa, caule medio et superiore ovata late elliptica vel obovata, 2—8cm longa, 1—4cm lata, ce apice obtuso-acuta vel rotundata, basi angustata, margine obrepando-crenata crenis apice callosis, supra atro-viridia, albo-hispida subtus dense adpresse incana villosa, costa prominua, nervis lateralibus 3—4 jugis; petioli breves vel sessile, angustato-alati. Calathia 2—3cm dim., 2—5 in corymbo laxo aggregata, involucrium patelliforme, bracteis 3-seriatis, serie exteriori breviori ovata, seriebus duabus interioribus longioribus, oblon-

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gis, herbaceis hyalinis hymenomarginibus, extus puberulis. Flo-
sculi extrii feminei ligulati, purpureo-caerulei, oblongi, 8—16
mm longi, ligulis apice obscure 3-denticulatis; fl^osculi centri
hermaphroditi tubulosi flavi, 3—4mm longi, staminibus cum
stylis exsertis. Achenia immatura leviter obovato-teretia, 5 vel
multi-costata, apice non papposa, papillatis praedita.

Henan (河南): Lushi-xian (卢氏县), side path of mountain
slopes, alt. 790m, leg. Fu Jing-qiu (傅兢秋) No. 2540 (Typus!).
23, X, 1958.

多年生草本。茎直立，圆柱形，密被白色向上贴生的长毛，微左右曲折，先端分枝。基生叶和茎下部叶未见，茎中部和上部叶卵形，宽椭圆形或倒卵状披针形，长2—8厘米，宽1—4厘米，先端钝尖或近圆形，基部渐狭，缘有不明显的波状圆齿，齿端有胼胝体，表面绿色，被白色短硬毛，背面被灰白色浓密的贴生长毛；叶脉在背面凸起，有3—4对侧脉；叶柄短或近无，有狭翅。头状花序径2—3厘米，3—5集聚成疏伞房花序；总苞碟状，总苞片3层，外层短，卵形，内面两层长，长圆形，草质，有透明的膜质边缘，外面有短柔毛；外围雌花为舌花，舌片蓝紫色，长圆形，长8—16毫米，先端有不明显的3小齿，中央两性花多数，为管状花，黄色，长3—4毫米；雄蕊和花柱外露。瘦果不成熟，微倒卵状圆柱形，有5或多条肋；先端无冠毛，有乳突状突起。

产秦岭山东段河南的卢氏县；生于海拔790米的低山坡小路旁。

本种与裸菀 (*G. piccolii* (Hook. f.) Kitam., 相似，但本种叶较宽，两面密被白色短硬毛和伏贴长毛；瘦果具5或多条肋，可以区别。

2. 无冠毛马兰

Kalimeris indica (Linn.) Sch.-Bip. f. *epapposa* J. Q. Fu,
f. nov.

(Sect. *Kalimeris*)

A typo recedit foliis pinnatifidis vel pinnatilobatis, Achenia
3-costatis interdum 4-costatais, ad apicem non papposis, tantum
reliquiis albis annulatis paratis.

Gansu (甘肃): Kang-xian (康县), Qinghelinchang (清河林场),
alt. 1340m, leg. Zhang Zhi-ying (张志英) No. 17324. (Typus!).
18, X, 1963; Kang-xian (康县), Changbalinchang (长坝林场),
alt. 1500m, leg. Zhang zhi-ying (张志英) No. 16834. 11, lx,
1963; Wenxian (文县), Bi-kou (碧口), alt. 950m, leg. Zhang zhi-

ying (张志英) No. 14253, 22, 1X, 1959.

Shaanxi (陕西): Feng-xian (凤县), Huang-niupu (黄牛铺), Hujishan (胡基山), alt. 1290m, leg. Zhang zhi-ying (张志英) No. 189. 14, VIII, 1958.

本变型与种的区别是叶羽状浅裂或中裂; 瘦果具3肋或有时4肋, 先端无冠毛, 仅有白色环状残痕。

3. 纤细马兰

Kalimeris indica (Linn.) Sch.-Bip. f. **gracilis** J. Q. Fu, f. nov.
(Sect. *Kalimeris*).

A typo recedit foliis angustis minoribus, ramulis gracilibus; Calathiis saepe in apicibus ramorum solis emittentibus flosculis ligulifloris albescentibus vel caeruleis.

Gansu (甘肃): Wen-xian (文县), Bi-kou-gongshe (碧口公社), Zhuyuanba (朱元坝), alt. 900m, leg. Zhang zhi-ying (张志英) No. 14791 (Typus!). 9, IX, 1959; alt. 650m, No. 10464. 1, 1X, 1959; Dan-Bao-gongshe (丹堡公社), alt. 1845m, No. 10162, 4, VIII, 1958; alt. 600m, leg. He-ye-qi (何业祺) No. 1081. 13, X, 1958; Wudu-xian (武都县), alt. 1000m, No. 501. 3, 1X, 1958.

Shaanxi (陕西): Lueyang-xian (略阳县), Ma-liutang dao Jing-zhen tu zhong (麻柳塘到江镇途中), alt. 680m, leg. Tang chang-lin (唐昌林) No. 382. 26, 1X, 1958.

本变型与种的区别是叶较小而狭; 分枝纤细; 头状花序常单生于分枝顶端; 舌状花白色或淡蓝色。

4. 披针叶马兰 图2

Kalimeris lancifolia J. Q. Fu, sp. nov.

(Sect. 1. *Kalimeris*)

Species affinis *K. integrifoliae* Turcz., sed planta humili, caule gracili, fasciculato; foliis basalibus adsunt per anthesin, folis longioribus, lanceolatis deffert.

Herba perennis, erecta, circ. 30cm alta. Radices graciles, rigidae, caespitosae. Caulis simplex, gracilis, fasciculatus, e basi proditus, leviter quadrangulatus longitudinaliter striatus inferne purpurascens, superne viridis, superne hirsutibus appressis albis obsitus. Folia basalia rosulata, obovata vel obovato-lan-

ceolata, 10—20mm longa, 5—7mm lata, apice mucronata, basi angustata, decursiva, margine breviter ciliata supra medium 1—3 microdonta, petioli 1—2cm longi, anguste altati, folia caulina sursum decrescentia, lanceolata vel lineari-lanceolata, 1.8—4.8cm longa, 0.1—0.6cm lata, apice acuminata, basi sessilia, leviter amplexicaulia, margine breviter ciliata, folia inferiora margine 1—3 microdonta, marginibus supra medium obscure undulata vel integra supra capitato-albo glandulosoopilosa subtus appresso-hirsuta punctata. Calathia 2—2.5cm, diam. 2—3 in corymbo laxo formanta, involucrum late campanulatum vel acetabuliforme, bracteis 3-seriebus, herbaceis extra brevioribus, lanceolatis, apice obtusis, margine late, albo-membranaceis et breviter ciliatis. Flosculi seriei externae feminei, ligulati, ligulis late-oblongis, purpurscentibus, ad 11mm longis, flosculi medii hermaphroditi, numerosi, tubulosi, 5mm longi, lutei, apice 5-fidi, lobulis revolutis, extra sparse glanduloso-pilosis, stamina 5, exserta antheris apice appendiculatis, stylus staminie longior, stigmatе bifido lobulis leviter rhombeis. Achenia obovata, circ. 9mm longa, rubro-fusca leviter compressa, tricostata, dense breviter adpresso-albo hirsuta atque pilis glandulosis immixta, pappi in achaeniis radiorum et disci brevissimi, circ. 0.5mm longi, albi, membranacei, neaequilongi.

Shaanxi (陕西): Lüeyang-xian (略阳县), grassland of the road side, alt., 700m, leg. Zhang zhi-ying (张志英) No. 17891 (Typus). 17, V, 1978.

多年生草本，直立，高约 30 厘米。根纤细、坚硬，丛生。茎不分枝。由基部发出，簇生，纤细，稍四棱形，具细纵条纹，下部常紫色，上部绿色，被向上贴伏的白色短硬毛。基生叶莲座状，倒卵形或倒卵状披针形，长 10—20 毫米，宽 5—7 毫米，先端短尖，基部渐狭，下延，缘具短缘毛，中上部有 1—3 对小齿；叶柄长 1—2 厘米，具狭翅，茎生叶向上渐小，披针形至线状披针形，长 1.8—4.8 厘米，宽 0.1—0.6 厘米，先端渐尖，基部微抱茎，缘具短缘毛；无柄，茎下部叶缘有 1—3 小齿，上部不明显的波状或全缘，表面有白色头状腺毛，背面被伏贴短硬毛和腺点。头状花序径 2—2.5 厘米，2—3 在茎端呈疏伞房花序；总苞宽钟状或碟状，外层

总苞片较短，草质，有白色宽膜质边缘，具短缘毛；外围一层雌花为舌状花，舌片宽长圆形，长达11毫米，淡紫色；中央多数两性花为管状花，长5毫米，先端5裂，裂片反卷，外面散生腺毛；雄蕊5枚，花药先端有附属物，外露；花柱较雄蕊长，柱头2裂，裂片菱形。瘦果倒卵形，长约2毫米，红褐色，稍扁平，有3肋，密被白色伏贴短硬毛并混有腺毛；冠毛在边花和盘花上均极短，长约0.5毫米、白色，不等长，膜片状。

产秦岭南坡陕西的略阳县；生于海拔700米左右的低山坡路旁草丛。

本种与 *K. integrifolia* Turcz. 相近似，但植株低矮，茎纤细，簇生，基生叶在花期宿存，叶较长，披针形，易于区别。

5. 多毛狗娃花

Heteropappus hispidus Less. f. *hispidissimus* Ling et W. Wang
东北植物检索表 377. 1959. nom. nud., descr. suppl.

A typo differt planta tota dense patenter hirsuta; bracteis involuclorum extra dense patentier hirsutis.

本变型与种的区别是植株全体密被开展的长硬毛；总苞片外面亦密被开展的长硬毛。

产秦岭东端的河南卢氏，中段陕西的商南、山阳、略阳、凤县、宁陕、华阳、蓝田、太白山及西端甘肃的文县、武都等地；生于海拔800—1800米的山坡草地、路旁、林地、河滩等场所。

分布于我国东北、河北、山西、陕西南部 and 北部、甘肃、青海、四川等省。

6. 无舌狗娃花

Heteropappus hispidus (Thunb.) Less. var. *eliguliflorus* J. Q. Fu, var. nov.

A typo caulibus fere glabris vel sparse glanduloso-pilosis; foliis lanceolatis, apice acuminatis, margine breviter glanduloso-pilosis, conspicuis glandibus bracteis involuclis pubescentibus vel glabris; flosculis non ligulifloris differt.

Xinjiang (新疆); Zhao-su (昭苏), Jun-ma-chang (军马场), alt. 1680m, Yellow flower, leg. Zhang. zhenwan and others (张振万等) No. 3819 (Typus!). 2, VIII, 1974; ditto glassland, herb. alt. 1800m, leg. NWIB. Xinjiang team (西北植物研究所新疆队) No. 2876. 25, VIII. 1974; ditto Gong-liu (巩留), alt. 1020m,

No. 2694. 22. VIII. 1974; The altai alt. 1150m, leg. Zhu-ge-lin (朱格麟) No. 6927. 19, VIII, 1964.

本变种与种的区别是茎被稀疏的腺毛或近无毛；披针形，先端渐尖，缘被短腺毛，有明显的腺点；总苞片无毛或有短柔毛，无舌状化。

7. 大花狗娃花 图 3

Heteropappus magnicalathinus J. Q. Fu, sp. nov.

(Sect. *Heteropappus*)

Species affinis *H. hispido* (Thunb.) Less., sed foliis tenuiter chartaceis, margine remote dentatis vel repandis, Calathiis majoribus differt.

Herba biennis, circ. 1m alta, radicem transversas, lignescentem emittens, radicellis fibrosis. Caulis erectus, erassus, simplex, teres, longitudinaliter striatus, sursum appresso-albo-hirsutus atque breviter hirsutus. Folia tenuiter chartacea, spathulata, oblanceoto-spathulata, sursum diminuta, lineares, inferiora per anthesin emorientia, 2—10cm longa, 0.2—1.3cm lata, apice obtusa, breviter cuspidata vel longe-acuminata, basi angustata, decurrentia, margine remote dentata vel undulata, superiora integra, albo-ciliata, utrinque appresse albo-hirsuta, hirsutibus supra brevioribus, subtus longioribus, petioli sessiles, leviter amplexcaules. Calathia majora circ. 6cm diam. numerosa ad apicem, pedunculis 4—8cm longis, dense patenter albo-hirsutis et pubescentibus, corymbis composita, involucrium acetabuliforme, bracteis 3-seriebus lineari-lanceolatis, herbaceis, apice longe acuminatis, extus appresse albo-hirsutis, flosculi extimoseriatifeminei, ligulati, purpureo-caerulei, angustio- oblongi, 29mm longi, flosculi medii numerosi hermaphroditi, tubulosi, 9mm longi, apice 5-lobi, lobis in uno partito et longiore, tubis pubescentibus, stamina 5, exserta, antheris apice appendiculatis, basi obtusi-sagittatis, stylus stamine longior, stigma bilobo, lobo leviter rhombeo. Achenia obovata, compressa, 3mm longa tricostata, breviter albo-hirsuta, pappis acheniorum radiorum brevissimis membranaceis, sordido-albis, pappis acheniorum discorum longioribus, rufidis, scabris.

Shaanxi (陕西): Shanyang-xian (山阳县), slopes, alt. 800m, leg. P. C. Kuo (郭本兆) No. 4467 (**Typus!**). 20, X, 1958.

二年生草本，高达1米左右；主根横卧，木质化，须根纤细。茎直立、粗壮，不分枝，圆柱形，紫红色，有细纵条纹，被向上伏贴或稍开展的白色长毛和短毛。叶薄纸质，匙形，倒披针状匙形，向上缩小呈线状，茎下部叶花期枯萎，长2—10厘米，宽0.2—1.3厘米，先端钝圆，有短头或长渐尖，基部渐狭，下延，缘具疏齿或波状，茎上部叶全缘，有白色缘毛，两面均被白色伏贴糙毛，表面较短，背面较长；无叶柄而微抱茎。头状花序大，径达6厘米左右，花序梗长4—8厘米，多数在茎顶聚集呈伞房花序，密被稍开展的白色长硬毛和柔毛；总苞碟状，总苞片3层，线状披针形，草质，先端长渐尖，外面被伏贴白色硬毛；雌花1层，为舌状花，舌片蓝紫色，狭长圆形，长29毫米，下部有短柔毛，中央多数两性花为管状花，长约9毫米，先端5裂，其中1裂片深裂而较长，管部被短柔毛；雄蕊5枚，外露，花药先端有附属物，基部钝箭形；花柱较雄蕊长，柱头2裂，略呈菱形。瘦果倒卵形，扁平，长3毫米，有3肋，被白色短硬毛；边花瘦果冠毛极短，膜片状，污白色；盘花瘦果冠毛较长，淡红褐色，粗糙。

产秦岭中段南坡陕西的山阳县；生于海拔800米的低山坡。

本种与狗娃花 *H. hispidus* (Thunb.) Less. 相似，但叶薄纸质，缘具疏齿或波状；头状花序较大，可以区别。

8. 细茎紫菀 图4

Aster gracilicaulis Ling, sp. nov.

(Sect. *Orthomeris* A. Gray)

Species habitu *Kalimeri lancifoliae* J. Q. Fu similis, sed ad *Aster delc ihophyllum* Ling, magis accedit; ab illo differt pappis biseriatis, ab hoc differt receptaculis foveolatis, glabris, pappis luteolis, facile distincta.

Herba perennis, erecta, circ. 40cm alta. Radice crassa, tereti, lignescenti, fibris numerosis tenuibus. Caulibus 4—5, fasciculatis, basi reliquis fibrosis obsitibus, leviter quadrangulatis, inferior aliquantum purpureis, glabris, superne viridibus appressibus albo-hirsutibus sparsis, basi foliis angustispathulatis, 2—4cm longis, 0.4—0.6cm latis, apice obtusis vel brevius-acuminatis, basi decursivis, margine 1—4 microdontis; petio-

lati semper 2cm longi, foliis caulium inferior induviatis per anthesin vel interdum deciduois, caulium superne gradatim redactibus, lanceolatis ad lineari-lanceolata, 2—7cm longis, 0.2—0.7cm latis, apice longo-acuminatis, basi angustatis, decusis, leviter amplexicaulibus, margine recusso, cillis rare brevibus obtusis, integris, raris vel interdum 2—3 microdontis obscure, superficies glandulo-pilosis sparsis, reticulis manifestis, dorsalibus punctatis fuscis et hirsutibus albis sparsis indutis. Calathium 2—2.5cm diam., pedunculis gracilibus, 7—15cm longis, corymbo laxo apice 2—4 calathiis formanti, involucrio acetabuliformi, bracteis 3-seriebus, extra brevioribus, 3—7mm longis, herbaceis, lanceolatis, margine lato membranaceo, breviciiliatis obtusis, flosculi feminei, 1-seriati, ligulati, ligulis oblongis, apice 3-microdontis obscure, caeruleo-purpureis, 7—11mm longi, medii multifloris hermaphroditis, tubulosis circ. 5mm longis, luteis, staminibus 5, exsertibus, stylus staminibus longior, stigmate bilobis, lobo leviter rhombeo, Achaenia obovata, compressa, 2mm longa, fusca, tricostata, brevi-hirsutis absita, achaenia radiorum et disci apice pappis 2-seriatis-luteolis, extra brevi-membranois, intra aequilongis tubulosis, scabris.

Gansu (甘肃): Hui-xian (徽县), alt. 1300m, gully, leg. P. C. Kuo (郭本兆) No. 3128 (Typus!). 26, VI, 1956.

多年生草本，直立，高40厘米。主根粗壮，圆柱形，木质化，具多数须根。茎4—5，簇生。基部有纤维状残余，稍四棱形，具细纵纹，下部稍紫色，无毛，上部绿色，散生白色伏贴短毛。基生叶狭匙形，长2—4厘米，宽0.4—0.6厘米，先端钝或渐尖，基部下延，边缘常具2—4小齿；叶柄通常长2厘米，具狭翅，茎下部的叶在花期枯萎或有时凋落，茎中部叶向上渐小，披针形至线状披针形，长2—7厘米，宽0.2—0.7厘米，先端长渐尖，基部渐狭，下延，微抱茎，缘反卷，被疏短缘毛，全缘，波状或有时具2—3不明显的小齿，表面散生腺毛，网脉明显，背面有褐色腺点并散生稀疏白色短硬毛。头状花序径2—2.5厘米；花梗纤细，长7—15厘米；2—4头状花序于茎端呈疏伞房花序；总苞碟状；苞片3层，外层较短，长3—7毫米，草质，披针形，先端钝，有宽膜质边缘，具短

缘毛；外围一层雌花为舌状花，舌片宽长圆形，先端具不明显3小齿，蓝紫色；中央多数两性花为管状花，黄色，长约5毫米；雄蕊5，外露；花柱较雄蕊长，柱头2裂，裂片稍菱形。瘦果倒卵形，稍扁平，长约2毫米，褐色，具3肋，被伏贴白色短硬毛；边花和盘花的瘦果先端的冠毛均为两层，淡黄色；外层短膜片状，内层与管部等长，粗糙。

产秦岭西端甘肃的徽县；生于海拔1300米的山沟。

本种体志与 *K. lancifolia* J. Q. Fu 极为相似，但更近于 *A. delichophyllus* Ling.，与前者区别是瘦果先端有2层冠毛；与后者区别是花托孔穴状，无毛，冠毛淡黄色，容易区别。

9. 岚皋紫菀 图5

Aster langaoensis J. Q. Fu, sp. nov.

(Sect. *Orthomeris* A. Gray.)

Species affinis *A. brachyphylo* Chang, sed foliis angustioribus integris; calathiis super caule axillaribus in racemo confertis; bracteis glabris facile differt.

Herba perennis. Radix fusca, crassa, lignosa, dense fibrosa. Caules 22—30cm alti, fasciculati, erecti, simplices, rigidi glabri longitudinaliter striati. Folia basilaria inferioraque per anthesin delapsa, supra medium coriacea, angusto-lanceolata ad lineari-lanceolata, 2—5.5cm longa, 0.2—0.6cm lata, apice obtusa, mucronata, basi angustata, integra, supra atro-viridia, glabra, subtus viridula, glabra dense minime pustulata conspicuo-triplinera, utrinque manifeste reticulata; petioli brevissimi vel sessiles. Calathia 3—4cm diam.; pedunculi 1—2.5cm longi phyllariis linearibus densis suffulti; calathia 1—8 super caulem axillaria in racemo fermentia; involucrum latecampanulatum; bracteae 6-seriatae, extra breviores, herbaceae vel membranaceae, lanceolatae, apice acutae vel obtusae, glabrae; flosculi extimoseriati feminei ligulati, angustio-blongi, 12—16mm longi, apice microdonti, tubis puberulis; flosculi medii hermaphroditi numerosi, tubulosi, 7—9mm longi, apice 5-fidi, lobis triangulis, tubis puberulis; stamina 5, exserta; stylus stamine longior, stigmatibus bifidis, lobis leviter rhombeis. Achenia compressa, angustio-ovata, 2—3mm longa, 2-costata, puberula prope api-

cem mixte adenotricha; pappis 1-seriatis tubis aequi longis, infuscat, scabrosis.

Shaanxi (陕西): Langao-xian (岚皋县), Baiyang xiang (白杨乡), Baiyancun (白杨村), The side of path on lowmountain slopes, alt. 630m, leg. K. T. Fu (傅坤俊) No. 12124 (Typus!). 13, XI, 1957.

多年生草本。根暗褐色，粗壮，木质化，密生须根。茎簇生，单一，直立，高22—30厘米，坚硬，无毛，有细纵条纹。基生叶和茎下部叶在花期枯萎凋落，茎中上部叶较密，草质，狭披针形至线状披针形，长3—5.5厘米，宽0.3—0.6厘米，先端钝，具短尖，基部渐狭，全缘，表面暗绿色，无毛，背面淡绿色，密被小泡状突起，有明显的离基三出脉；网脉两面均明显。头状花序径3—4厘米；花序柄长1—2.5厘米，密生线状苞叶，头状花序1—8着生于茎端叶腋呈总状花序；总苞宽钟状；总苞片6层，外层较短，草质或近膜质，披针形，先端尖或钝，无毛；外围雌花为舌状花，舌片狭长圆形，长12—16毫米，先端具2小齿，管部被短柔毛；中央多数两性花为管状花，长7—9毫米，先端5裂，裂片三角形，管部短柔毛；雄蕊5，外露；花柱较雄蕊长，柱头2裂，稍菱形。瘦果扁平，狭倒卵形，长2—3毫米，具2肋，被短柔毛，上部混有腺毛；冠毛1层，长达花冠管部，淡褐色，粗糙。

产陕西南部巴山北坡岚皋县；生于海拔630米的低山坡路旁。

本种与 *A. brachyphyllus* Chang, 相近，但叶较狭，全缘；头状花序于茎端叶腋密集呈总状花序；总苞片无毛，易于区别。

10. 丝柄紫菀 图6

Aster filipes J. Q. Fu, sp. nov.

(Sect. *Alpigenia* Benth.)

Species affinis *A. giraldii* Diels, sed foliis tenuiter chartaceis, integris, utraque adpresse albo-hirsutis et pilis adenotrichis immixtis; pedunculis filiformibus; Acheniis adpresse hirsutis differt.

Herba perennis, erecta, 29—34cm alta. Radix crassa, id transversaliter emittens, atro-fusca, radicellis fibrosis numerosis praedita. Caulis simplex, viridis, sursum adpresse albo-hirsutus. Folia tenuiter chartacea, lanceolata, apicem versus lineari-lanceolatis sensim deminuta, 1.5—5.5cm longa, 0.2—1.2cm

lata, apice obtusa, basi angustata, decursiva, integra, breviter alba ciliata, supra atro-viridia, adpresse alba hirsuta et pilis adenotrichis immixta subtus chlorina, adpresso-hirsuta et obscure oleosis punctatis immixta, basilaria per anthesin persistentia, petioli 1.5—2.5cm longi, anguste alati; folia caulina sessila leviter amplexicaulia. Calathium 5—9 circ. 2.5cm diam. pedunculi filiformibus 2.5—9cm longi ad apicem caulis corymbo laxse formanti; involucrum acetabuliforme, bracteis 3-seriatis, fere aequilongis, herbaceis, lanceolatis, apice acuminatis, extra puberulis albis; flosculi extimoseriati feminei, ligulati, ligulis oblongis 10—11mm longis purpureis apice obscure 3-microdontis; flosculi medii multi-hermaphroditi, tubulosi, lutei, circ. 4mm, longi, apice 5-lobi; stamina styloque exserta; stigma 2-fidum, lobis leviter triangulatis. Achenia angustio-ovata, leviter compressa, 3-costata, fusca, sursum adpresse alba hirsutibus; pappis 1-seriatis, fuscatis longitudine tubas corollarum aequantibus scaberulis.

Gansu (甘肃): Zhugqu-xian (舟曲县), Ba-zang (巴藏), alt. 3300m, grassland of the mountain slopes, leg. T. P. Wang (王作宾) No. 14393 (Typus!). 13, VII. 1951.

多年生草本，直立，高 29—34 厘米。主根粗壮，横生，黑褐色，具多数须根。茎单 1，有细纵纹，绿色，被稀疏，向上伏贴的白色短硬毛。叶薄纸质，披针形，向上缩小呈线状披针形，长 1.5—5.5 厘米，宽 0.2—1.2 厘米，先端钝尖，基部渐狭，下延，全缘，具白色短缘毛；表面暗绿色，被白色伏贴短硬毛并混生腺毛，背面淡绿色，被白色伏贴短硬毛，混有不明显的油腺点；基生叶在花期宿存，叶柄长 1.5—2.5 厘米，有狭翅，茎生叶无柄，微抱茎。头状花序径约 2.5 厘米；花序柄丝状，长 2.5—9 厘米，5—10 头状花序于茎端形成疏伞房花序；总苞碟形，总苞片 3 层，近等长，草质，披针形，先端渐尖，外面被白色柔毛；外围雌花 1 层，舌状，舌片长圆形，长 10—11 毫米，先端有不明显的小齿，紫色；中央多数两性花为管状花，长约 4 毫米，黄色，先端 5 裂；雄蕊和花柱外露；柱头 2 裂，裂片稍三角形。瘦果狭倒卵形，稍扁平，有 3 肋，红褐色，被向上伏贴短硬毛；冠毛 1 层，淡褐色，长达花冠的管部、粗糙。

产秦岭西端南坡甘肃的舟曲县；生于海拔 3300 米的高山草坡。

本种与 *A. giraldii* Diels, 相近, 但叶薄纸质, 全缘, 两面均被白色伏贴硬短毛, 表面混有腺毛, 背面混有油腺点; 花序柄丝状; 瘦果被白色伏贴短毛, 可以区别。

11. 卵叶柔软紫菀

Aster flaccidus Bge. f. *ovatifolius* J. Q. Fu, f. nov.

A typo formis differt foliis basibus atque inferne caulinis foliis latioribus, latiovatis vel ovato-oblongis, Calathiis majoribus, 4—6.5cm diam.

Shaanxi (陕西): Dong-taibai-shan (东太白山), Baxiantai (八仙台), in stoney soil of the slope grassland, alt. 3690m, leg. Li guo-you (李国犹) No. 1556 (Typus!). 26, VIII, 1957; Liang yi-min (梁一民) No. 434.4, VIII, 1963; Xitaibai-shan (西太白山), Hu Hun-ren-ping (混人坪), The Summit of a mountain, alt. 3350m, leg. Liang yi-min (梁一民) No 613. 8, IX, 1963.

本变型与种的区别是基生叶和茎下部叶均较宽, 宽卵形或卵状长圆形; 头状花序较大, 径 4—6.5 厘米。

12. 纤细柔软紫菀 肺经草 (陕西省, 眉县)。

Aster flaccidus Bge. f. *gracilis* J. Q. Fu, f. nov.

A typo differt planta gracili; foliis angusto-oblongis lanceolatis vel lineari-lanceolatis.

Shaanxi (陕西): Xitaibai-shan (西太白山), Pinansi (平安寺), Path side of the mountain slopes alt. a 850m, leg. Yang jin-xiang (杨金祥) No. 849 (Typus!). 7, V, 1959; alt. 2800m, leg. P. C. Kuo (郭本兆) No. 4528, 18, VI, 1959; under the forest, leg. Shaanxi Sheng. Zhongcaoyaopuchadui (陕西省中草药普查队) No. 329. 23, VI, 1970.

Qinghai (青海): Zaduoado (扎多阿多), alt. 4200m, leg. Liu shang-wu (刘尚武) No. 255. 28, VII, 19—65.

本变型与种的区别是植株纤细; 叶狭长圆形, 披针形或线状披针形。

陕西太白山区人民以全草入药; 夏、秋采收全草, 阴干备用, 有清热解毒, 止咳等功效; 主治肺结核, 肺痈、肺炎、百日咳等病症。

13. 太白淡黄香青

Anaphalis flavescens Hand. Mazz. var. *taipeiensis* J. Q. Fu,

var. nov.

A typo varietatis foliis utrinque tantum flavo-adenotrichis, efflavo-araneoso-lanatis, margineg labris vel interdum laxe araneoso-lanatis differt.

Shaanxi (陕西): Mei-xian (眉县), Taibaishan (太白山), Wengong-mao (文公庙); On grassland of a mountain slope; Herba, erect, alt. 3400m, leg. Guo you-han, Hu zhi-xin (郭友好、胡志新) No. 421 (**Typus!**). 8, VIII, 1977; same locality, leg. Shaanxi Zhongcaoyanpuchadui (陕西省中草药普查队) No. 379. 28, VI, 1970; Xitaibaishan (西太白山), Shuidengcao (水灯草), Forest side of a mountain slope; Flower white, alt. 2800m, leg. K. T. Fu (傅坤俊) No. 10167. 7, VIII, 1957; Xitaibaishan (西太白山), Shuiwozi (水窝子), grassland on slope of a road side, alt. 3250m, leg. Liang yi-min (梁一民) No. 645. 10, IX, 1963; Fopin-xizn (佛坪县), Dajian-qou (大涧沟), The top of a mountain, alt. 2800m, Leaf have been with hair; Flower white, leg. P. C. Kou (郭本兆) No. 1741.17, VII, 1952.

本变种与种的区别是叶两面均无淡黄色蛛丝状绵毛，仅被淡黄色的腺毛，叶缘无毛或有时被稀疏的蛛丝状绵毛。

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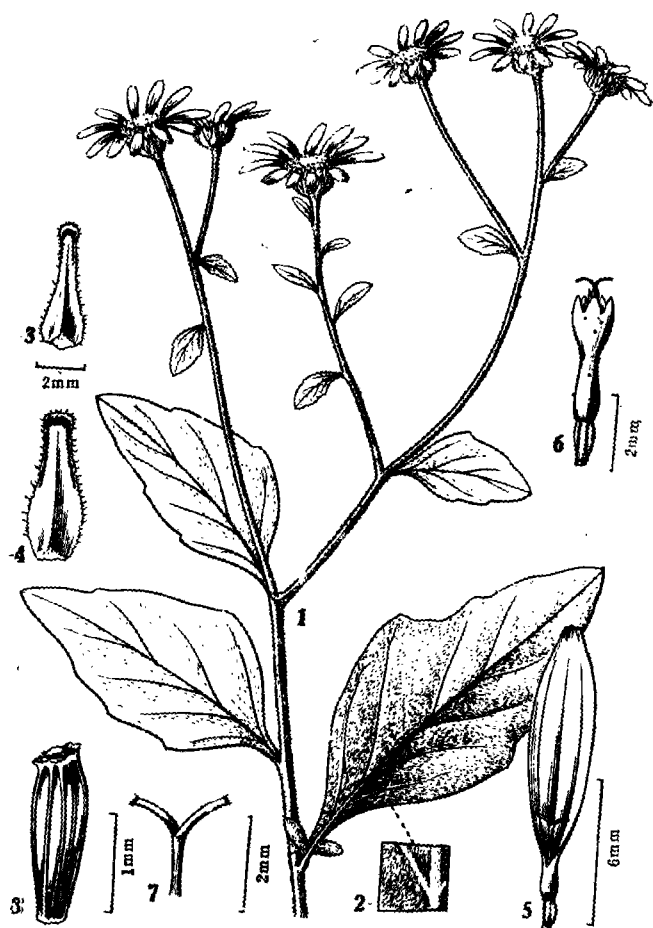


图 1 卢氏裸菀 *Gymnaster lushiensis* J. Q. Fu, sp. nov.: 1. 花枝; 2. 叶背面毛; 3. 4. 外层和内层总苞片; 5. 舌状花; 6. 管状花; 7. 柱头; 8. 瘦果。(钱存源绘)

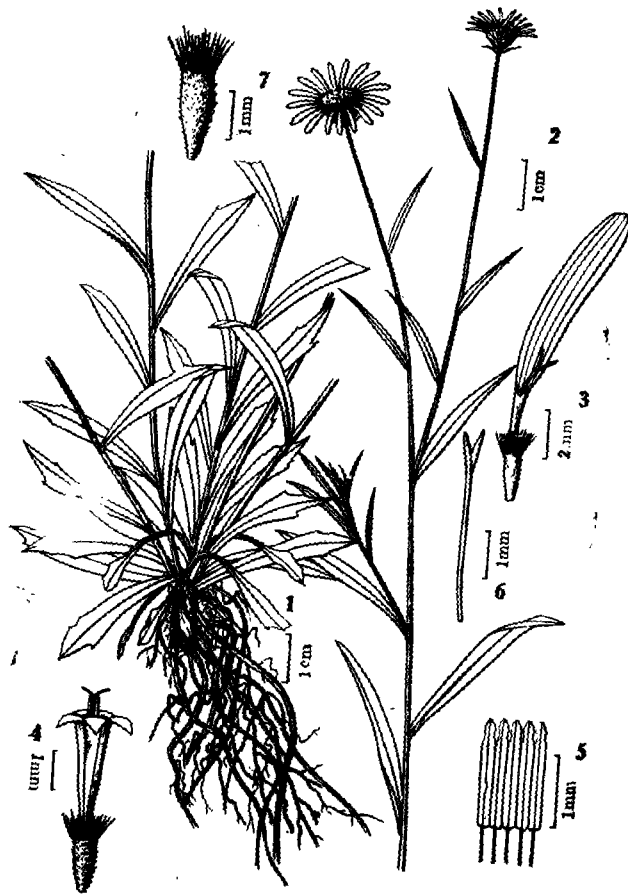


图2 披针叶马兰 *Kalimeris lancifolia* J. Q. Fu, sp. nov.; 1. 2. 植株下部和上部; 3. 舌状花; 4. 管状花; 5. 雄蕊; 6. 花柱; 7. 瘦果和冠毛。(付季平绘)

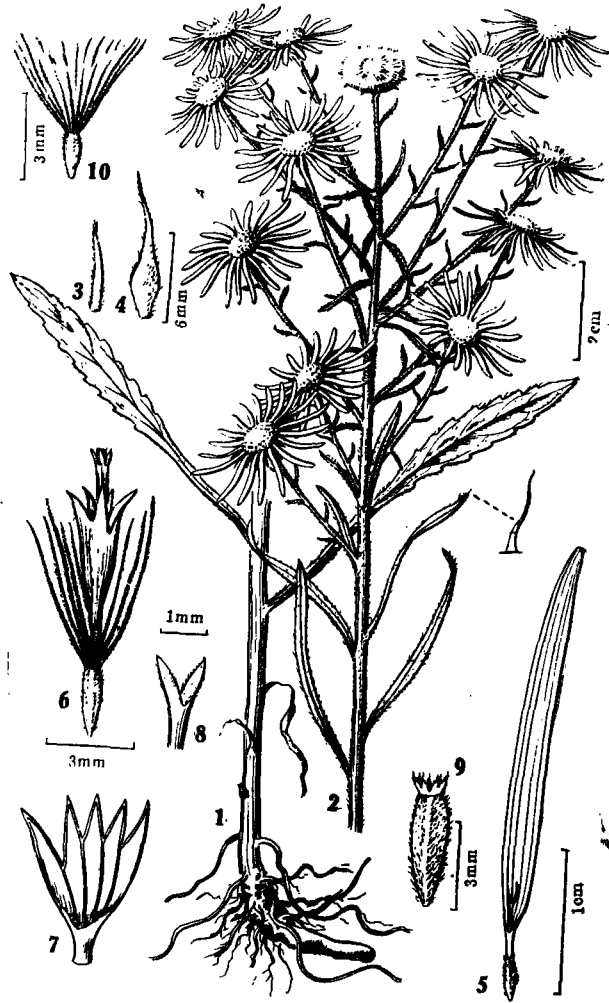


图3 大花狗娃花 *Heteropappus magnicalathinus* J. Q. Fu, sp. nov.: 1. 根和茎下部; 2. 花枝; 3. 4. 外层和内层总苞片; 5. 舌状花; 6. 管状花; 7. 管花展开; 8. 柱头; 9. 舌花的瘦果和冠毛; 10. 管花的瘦果和冠毛。(钱存源绘)

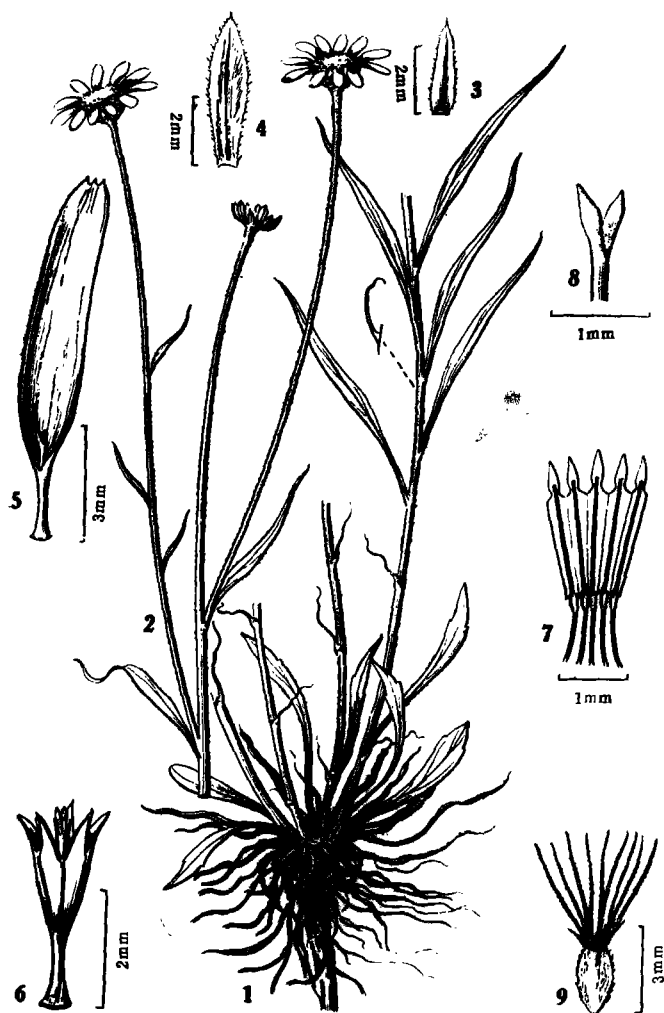


图4 细茎紫菀 *Aster gracilicaulis* Ling, sp. nov.; 1. 植株根和茎下部; 2. 花枝;
3. 4. 外层和内层总苞片, 5. 舌状花, 6. 管状花; 7. 雄蕊; 8. 柱头; 9. 瘦果及冠毛。
(钱存源绘)



图5. 岚皋紫菀 *Aster langaoensis* J. Q. Fu, sp. nov.: 1. 植株根和茎下部; 2. 花枝; 3. 总苞片; 4. 舌状花; 5. 管状花; 6. 瘦果花和冠毛。(付季平绘)

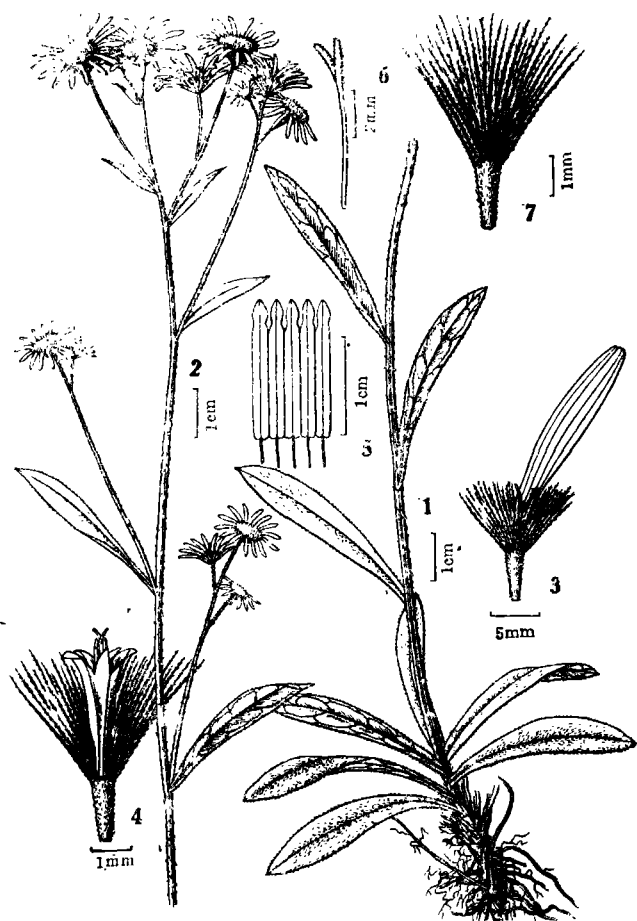


图6. 丝柄紫菀 *Aster filipes* J. Q. Fu, sp. nov.: 1. 植株根和茎下部; 2. 花枝; 3. 舌状花; 4. 管状花; 5. 雄蕊; 6. 花柱; 7. 瘦果和冠毛。(付季平绘)